

ABSTRACT OF THE DISCLOSURE

A solid state vacuum device (SSVD) and method for making the same. In one embodiment, the SSVD forms a triode device comprising a substrate having a cavity formed therein. The SSVD further comprises an anode positioned in the cavity of the substrate, a cathode suspended over the cavity of the substrate, and a grid positioned between the cathode and anode. In addition, the SSVD comprises a seal for creating a vacuum environment in the area surrounding the grid, cathode, and anode. Upon applying heat to the cathode, electrons are released from the cathode, passed through the grid, and received by the anode. In response to receiving the electrons, the anode produces a current. The current produced by the anode is controlled by a voltage applied to the grid. Other embodiments of the present invention provide diode, tetrode, pentode, and other higher order device configurations.